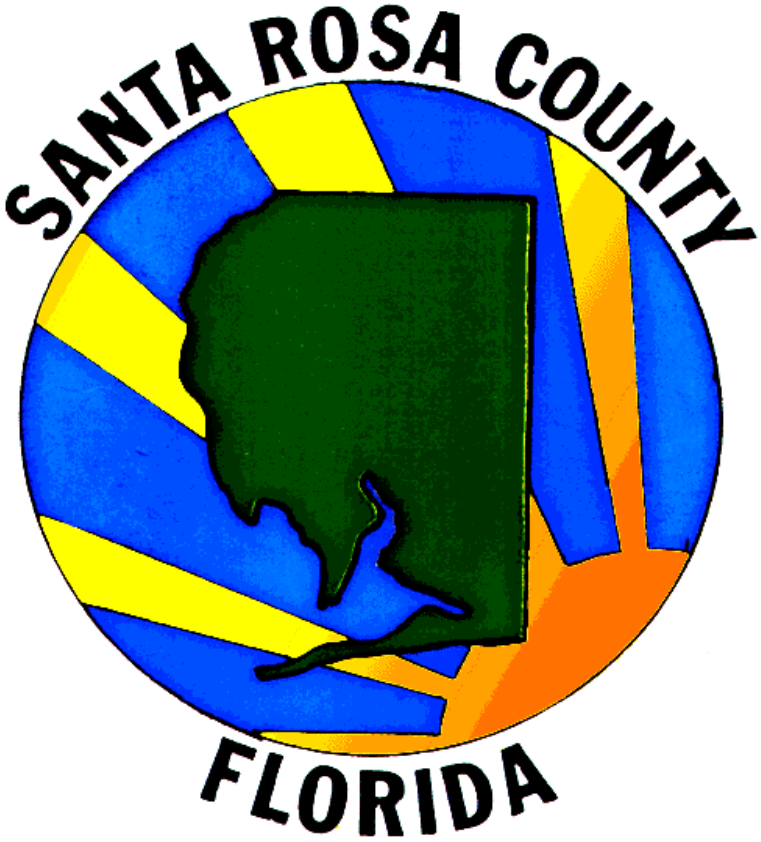


Santa Rosa County
Debris Management Plan

Written 2007

RECORD OF REVISIONS

Number	Date	Posted By	Revision
1	Sep 2010	Daniel Hahn	Update contractors
2	Feb 2012	Daniel Hahn	Update contractors
3	Feb 2013	Daniel Hahn	Update contractors/debris sites
4	Sep 2013	Daniel Hahn	Update IAW FEMA DM checklist

Revisions will take place on an as needed basis or annually.

Santa Rosa County Debris Management Plan

TABLE OFCONTENTS

INTRODUCTION:
This plan is to implement the timely and thorough removal of debris from the County in a systematic way that ensures the return of critical services and promotes public safety.

PURPOSE:
To provide policies and guidance to the contracted Debris Management Company for the removal and disposition of debris caused by a major disaster. To facilitate and coordinate the management of debris following a disaster in order to mitigate against any potential threat to the lives, health, safety, and welfare of the impacted citizens, expedite recovery efforts in the impacted area, and address any threat of significant damage to improved public or private property.

For the purposes of this plan, debris removal is defined in accordance with the *Public Assistance Policy Digest*, FEMA 321/January 2008 that says;

> **Debris Removal** is the clearance, removal, and/or disposal of items such as trees, woody debris, sand, mud, silt, gravel, building components and contents, wreckage (including that produced during the conduct of emergency work), vehicles on public property, and personal property. For debris removal to be eligible, the work must be necessary to:
> Eliminate an immediate threat to lives, public health and safety. Eliminate immediate threats of significant damage to improved public or private property when the measures are cost effective. Ensure the economic recovery of the affected community to the benefit of the community-at-large. Mitigate the risk to life and property by removing substantially damaged structures and associated appurtenances as needed to convert property acquired using FEMA hazard mitigation program funds to uses compatible with open space, recreation, or wetlands management practices.
> Examples of ***eligible*** debris removal activities include:
> Debris removal from a street or highway to allow the safe passage of emergency vehicles Debris removal from roads in private communities, including debris moved to the curb in the community (see **Homeowners' Associations**) Debris removal from public property to eliminate health and safety hazards
> Examples of ***ineligible*** debris removal activities include:
> Removal of debris, such as tree limbs and trunks, from natural (unimproved) wilderness areas. Removal of pre-disaster sediment from engineered channels. Removal of debris from a natural channel unless the debris poses an immediate threat of flooding to improved property from a flood that has a 20% chance of occurring in any one year.
> Debris removal from private property is generally not eligible because it is the responsibility of the individual property owner (see eligible debris examples above). If property owners move the disaster-related debris to a public right-of-way, the local government may be reimbursed for curbside pickup and disposal for a limited period of time. If the debris on private business and residential property is so widespread that public health, safety, or the economic recovery of the community is threatened, FEMA may fund debris removal from private property, but it must be approved in advance by FEMA (p. 31).

For the purposes of this plan, debris salvage is defined in accordance with the *Public Assistance Policy Digest*, FEMA 321/January 2008 that says;

> Debris resulting from disasters may have a market value. Some of the materials that can be expected to be marketable include timber debris, mulched woody debris, and scrap metals. Disposition of **Debris Salvage** must be at fair market value and the value must be reimbursed to FEMA to reduce the total project cost. Reasonable costs for administering and marketing the sale of the salvageable materials may be deducted by the applicant from the fair market value. If an applicant allows a contractor to take possession of salvageable material in order to lower bid prices, there is no salvage value to be recouped at the end of the project. (p. 32)

I. Staff Roles and Responsibilities

A. Staffing Organizational Chart

Lead role in debris management is held by the County Public Works department, with support roles being provided by the below listed personnel and agencies.

B. Roles and Responsibilities

1. Staffing Assignments and Duties – are described below

2. Administration – will be performed by Public Works personnel with support from other County agencies as required.

3. Contracting and Procurement- will be handled by the County Office of Management and Budget

4. Legal – will be addressed by the County attorney.

5. Operations – will be performed by contact company, monitored by Thompson Consulting Services, with oversight by the County Public Works Department.

   a. The County Debris Project Manager (DPM) responsible for all contracts and for oversight of the operational aspect of this Debris Management Plan is Stephen Furman, 626-0191 from the Department of Public Works. The DPM will be the primary liaison/coordinator with federal or state entity having fiscal oversight of debris management. The DPM may delegate this responsibility to other county state depending on the agency and need.
   b. At the time of this plans implementation, the County Debris Project Manager will designate County employees to perform oversight of, and spot checks on, all contracted work within the County as he sees fit, or is required to do by higher authority.

6. Engineering/Planning - will be conducted by the County Engineering Department or contract engineers, as required. "The following are tasks that may be completed by the Engineering or Planning and Zoning staff:
   - Forecast debris volume based on assumed disaster type.
   - Develop an estimating strategy for post-disaster debris quantities.
   - Strategize and map debris haul routes.
   - Select debris management sites and design the site layout.
   - Determine reduction and recycling means and methods.
   - Identify and coordinate environmental issues.
   - Assess available landfill space and determine if additional space is needed.
   - Develop the debris collection strategy.
   - Write contract scopes of work, conditions, and specifications.
   - Coordinate with other local and State jurisdictions for road clearance and operations.
   - Establish a process for building damage assessment and condemnation (including public and private properties).
   - Issue permits. (Debris Management Plan)

7. Inter-local Planning - Debris management planning is conducted between the following Santa Rosa County agencies; PW, Engineering, Emergency Management, Planning & Zoning, Grants and Special Projects, and any affected municipalities. State Emergency Management receives a copy of this plan. State and federal oversight of the plan is conducted to insure it meets FEMA compliance requirements.

C. Emergency Communications Plan

Santa Rosa County utilizes Nextel direct connect radios and telephone service as the primary means of communication between County employees and with our debris monitoring firm and debris management firm field personnel. The County' Road and Bridge Department also has VHF radios permanently mounted in most vehicles; and has a supply of hand held units for supervisory staff. The VHF radios are supported by several repeater towers located throughout the County. The towers are maintained by the County's Department of Emergency Management.

D. Health and Safety Plan and Procedures
Debris will be managed IAW the following FEMA guidance.

1. Eligible Public Debris: Disaster-related vegetative materials, construction and demolition materials, household goods, and other materials deposited (either by the event or a property owner) on *public* property (including public rights-of-way), and which present an immediate health and safety threat to the general public.

2. Eligible Private Debris: Disaster related vegetative materials, construction and demolition materials, household goods, and other materials deposited (by the event) on *private* (personal or commercial) property, and which present an immediate health and safety threat to the general public. *Debris on private property does not typically present an immediate health and safety threat to the general public, so removal is not normally eligible for reimbursement.* However, the Federal Coordinating Officer is authorized to approve the removal of debris from private property when he determines that such debris does present an immediate health and safety threat to the general public, and such removal would be in the public interest (Recovery Strategy, Page 1, Section VI. A.)

3. Additional Health and Safety measures can be found in Appendix F

E. Training Schedule
Training schedules are left to the individual contracted participants to develop.

II. History, Situation and Assumptions

Santa Rosa County has experience with hurricane debris. Hurricane Ivan in 2004 and Hurricane Dennis in 2005 offered best practice experience, which resulted in the development of this debris management plan in 2007. Having experienced a series of hurricanes that created large quantities of debris of all kinds, Santa Rosa County has put into this plan options best suited for the county with the resources we have available. According to Fl Statute Ch. 119 and 257, the Applicant must retain records up to 5 years after the close of the contract.

Santa Rosa County has identified 14 debris disposal companies as the only allowable bidders in the event of an incident requiring debris management services. From this point forward the company selected to perform debris management will be referred to as the Debris Management Company (DMC). See Appendix B for list of pre-qualified contractors. In accordance with 44 CFR Part 13.36(f)(4), cost plus percentage of cost contracts shall not be used. In accordance with 44 CFR Part 13.35, contracts will not be awarded to debarred contractors.

Thompson Consulting Services (TCS) is the approved debris management monitoring company.

A. Design Disaster Event

Assumptions

- Natural and manmade disasters precipitate a variety of debris that include, but are not limited to, such things as trees, sand, gravel, building construction material, vehicles, personal property, and hazardous materials.
- The quantity and type of debris generated from any particular disaster will be a function of the location and kind of event experienced, as well as its magnitude, duration, and intensity.
- The quantity and type of debris generated, its location, and the size of the area over which it is dispersed will have a direct impact on the type of collection and disposal methods utilized to address the debris problem, associated costs incurred, and how quickly the problem can be addressed.
- In a major or catastrophic disaster, many state agencies and local governments will have difficulty in locating staff, equipment, and funds to devote to debris removal, in the short-term as well as long term (Debris Management).
- A natural disaster that requires the removal of debris from public or private lands and waters could occur at any time.
- The amount of debris resulting from an event or disaster could exceed the local government's ability to dispose of it.

- If the natural disaster requires, the Governor would declare a state of emergency that authorizes the use of State resources to assist in the removal and disposal of debris. In the event Federal resources are required, the Governor would request through FEMA a Presidential Disaster Declaration.
  - Private contractors will play a significant role in the debris removal, collection, reduction and disposal process.
  - The debris management program implemented by the local government will be based on the waste management approach of reduction, reuse, reclamation, resource recovery, incineration and land filling.

B. Forecasted Debris

1. Forecasted Types
   Natural disasters such as hurricanes, tornadoes and floods are expected to generate a variety of debris including but not limited to: vegetative material, building materials, vehicles, personal property, soil, and hazardous substances. For most natural disasters, vegetative debris is expected to be produced in greater volumes than all other categories combined. Forecasting will be in accordance to the formulas listed in APPENDIX C or those utilized by the selected Debris Management Company.

2. Forecasted Locations
   The southern one-third of the County is expected to generate more debris during wide spread disasters than the rest of the County (with the exception of tornadoes, which can occur anywhere in the County). During a hurricane, the coastal areas are not only subjected to the harshest winds, the area is also at greater risk of flooding due to storm surges and river and creek flooding.

III. Debris Collection Plan

A. Priorities
Critical facilities will be identified on a case by case basis as determined by the nature of the incident and its severity. Some critical infrastructures which are standard are:

1. Hospitals
2. Nursing homes/Adult living facilities
3. Fire and EMS stations
4. Utilities/Lift Stations
5. major thoroughfares in the County

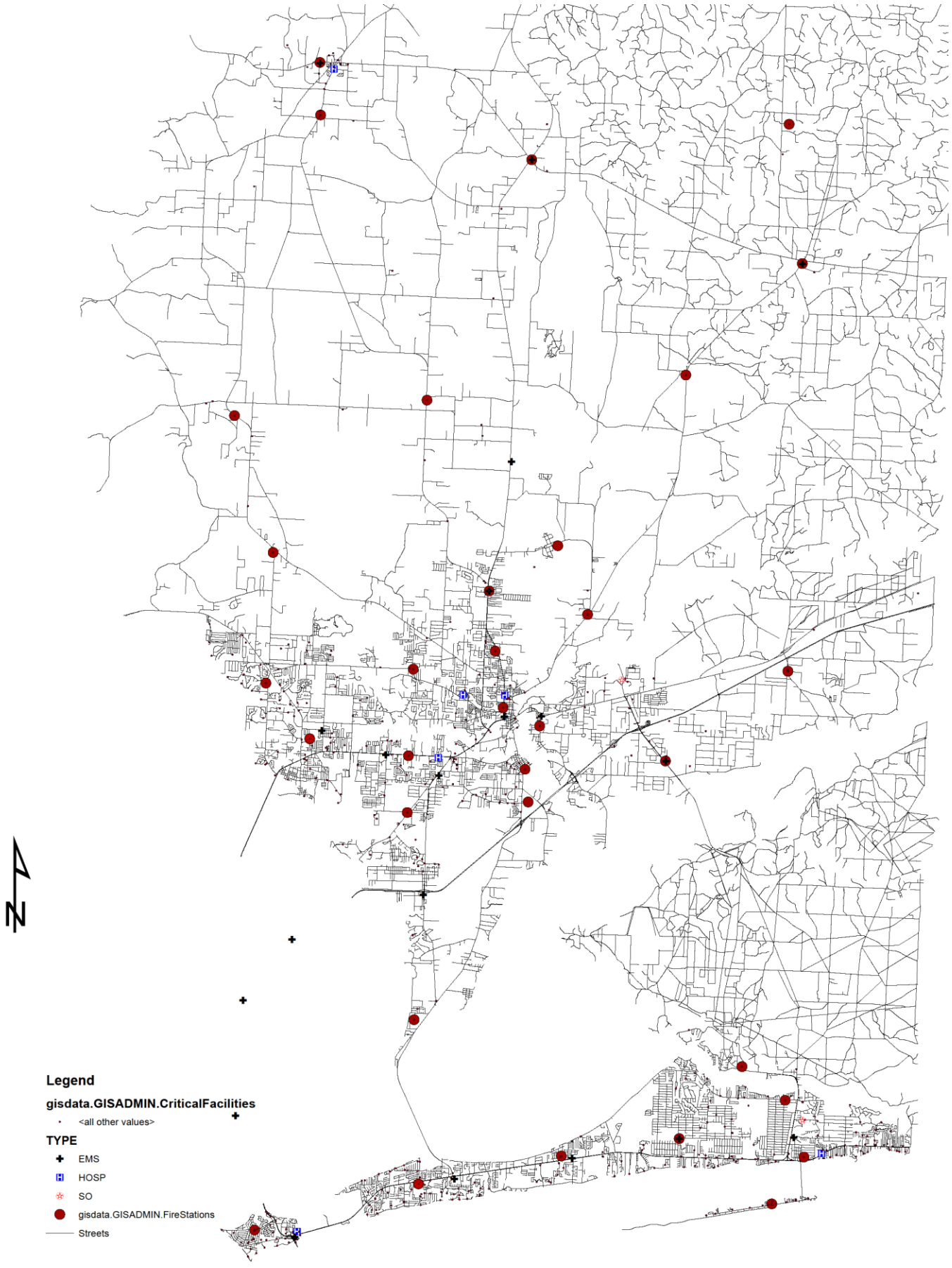
Address lists for hospital, nursing homes and fire stations is listed here with a map showing locations of hospitals, fire stations, EMS stations and SO sub-stations on the following page. Appendix A is a map of the major road ways.

BAPTIST MEDICAL PARK	8888 NAVARRE PKWY	30.40590	-86.85147
GULF BREEZE HOSPITAL	1110 GULF BREEZE PARKWAY	30.36030	-87.15664
JAY HOSPITAL	14114 ALABAMA ST	30.94987	-87.15131
SANTA ROSA DIALYSIS CENTER	5819 HIGHWAY 90	30.60204	-87.08051
SANTA ROSA MEDICAL CENTER	6002 BERRYHILL ROAD	30.63406	-87.06672
WEST FLORIDA COMMUNITY CARE CENTER	5500 STEWART NT	30.63440	-87.04249
BAY BREEZE NURSING AND RETIREMENT CENTER	3375 GULF BREEZE PARKWAY	30.38617	-87.08239
BERRYHILL MANOR	5544 SWANNER ROAD	30.63702	-87.07777
FORSYTH HOUSE	5887 BERRYHILL ROAD	30.63524	-87.07374
SANDY RIDGE CARE CENTER	5360 GLOVER LANE	30.63013	-87.06367
SANTA ROSA HEALTH & REHABILITATION CNETER	5386 BROAD ST	30.62980	-87.03709
SUMMER SET	4029 GARCON POINT RD	30.58075	-87.03177

THE HERTITAGE OF SANTA ROSA, INC	5530 NORTHROP ROAD	30.63610	-87.06481
THE VILLAS AT GULF BREEZE	101 McABEE COURT	30.35623	-87.16439
ALLENTOWN VOLUNTEER FIRE DEPT-1	9482 HWY 89	30.78288	-87.09208
ALLENTOWN VOLUNTEER FIRE DEPT	9225 CHUMUCKLA HWY	30.77820	-87.20495
AVALON BEACH-MULAT VOLUNTEER FIRE DEPT -1	5428 MULAT ROAD	30.57365	-87.09830
AVALON BEACH-MULAT VOLUNTEER FIRE DEPT -2	909 CLEARVIEW STREET	30.46881	-87.09146
BAGDAD VOLUNTEER FIRE DEPT	7043 OAK ST	30.59727	-87.03048
BERRYDALE VOL FIRE DEPT	13000 HIGWAY 87 N	30.90576	-87.03370
CITY OF GULF BREEZE FIRE DEPT	313 FAIRPOINT DRIVE	30.36039	-87.18218
CITY OF MILTON FIRE DEPT	5236 BRUNER STREET	30.62473	-87.04230
EAST MILTON VOL FIRE DEPT - 1	5081 WARD BASIN RD	30.61911	-87.02179
EAST MILTON VOL FIRE DEPT - 2	4616 HIGHWAY 87 S	30.60271	-86.94752
HAROLD VOLUNTEER FIRE DEPT	6001 MILLER BLUFF RD	30.64952	-86.87694
HOLLEY-NAVARRE VOL FIRE DEPT - 41	6893 MANATEE ROAD	30.41153	-86.93487
HOLLEY-NAVARRE VOL FIRE DEPT - 43	8351 EAST BAY BLVD	30.43206	-86.87335
HOLLEY-NAVARRE VOL FIRE DEPT - 44	3146 BOB TOLBERT RD	30.44870	-86.89897
HOLLEY-NAVARRE VOL FIRE DEPOARTMENT - 45	8618 ESPLANDE STREET	30.40354	-86.86171
JAY VOL FIRE DEPT	13444 HIGHWA 89	30.92608	-87.15903
MIDWAY VOL FIRE DEPT - 35	1322 COLLEGE PKWY	30.38572	-87.08671
MIDWAY VOL FIRE DEPT - 37	1801 AMBERCROMBIE RD	30.40149	-87.00341
MUNSON VOL FIRE DEPT - 1	11688 MUNSON HIGHWAY	30.85604	-86.87360
MUNSON VOL FIRE DEPT - 2	10025 MUNSON HIGHWAY	30.80006	-86.94057
MUNSON VOL FIRE DEPT - 3	10290 MORRIS ROWELL RD	30.92695	-86.88704
NAVARRE BEACH VOL FIRE DEPT - 49	1413 UTILITY DRIVE	30.37936	-86.87986
PACE VOL FIRE DEPT - 1	4541 MAJOR ST	30.60180	-87.15873
PACE VOL FIRE DEPT - 2	5527 WOODBINE RD	30.63950	-87.18222
PACE VOL FIRE DEPT - 3	5405 HIGHWAY 90	30.60258	-87.09828
PACE VOL FIRE DEPT - 4	7341 CHUMUCKLA HWY	30.70393	-87.18042
SKYLINE VOL FIRE DEPT STA -3	6924 HIGHWAY 87 N	30.68590	-87.05337
SKYLINE VOL FIRE DEPT STA -1	7770 LUND RD	30.67556	-86.99647
SKYLINE VOL FIRE DEPT STA - 2	5415 RUFUS DR	30.64644	-87.09666
SKYLINE VOL FIRE DEPT STA - 4	6537 FIREHOUSE RD	30.65659	-87.04885
GULF BREEZE POLICE DEPT	311 FAIRMONT DR	30.36037	-87.18166
MILTON POLICE DEPT.	5451 ALABAMA ST	30.63277	-87.04039
SRSO District 5 Office	3695 Hwy 4	30.95260	-87.16013
SRSO District 1 Office	1322 College Pkwy	30.38543	-87.08678
SRSO District 2 Office	8597 High School Blvd	30.42224	-86.86293
SRSO District 3 Office	4223 Highway 90	30.60335	-87.14662
SRSO District 4 Office	5755 EAST MILTON RD	30.64216	-86.97485
Navarre beach lift station #4	1426 ALABAMA ST.	30.37879	-86.88190
Navarre beach lift station #4	8270 GULF BLVD	30.37824	-86.87885

Navarre beach lift station #5	8524 GULF BLVD	30.38076	-86.86761
Navarre beach lift station #6	8436 GULF BLVD	30.37976	-86.87458
Navarre beach lift station #7	7438 WHITE SANDS BLVD	30.37386	-86.97798
Navarre beach lift station #8	7926 WHITE SANDS BLVD	30.37718	-86.89152
Navarre beach lift station Buena Vida	8520 GULF BLVD	30.38074	-86.86788
Navarre beach lift station Caribbean isle subd	1453 BERMUDA DR.	30.37620	-86.90229
Navarre beach lift station Sailmaker cove	7306 SPINNAKER CT.	30.37298	-86.91812
Navarre beach lift station state park	8680 GULF BLVD	30.38154	-86.86236
Jay lift station community center	5259 BOOKER ST.	30.95189	-87.15998
Jay lift station school	3795 ESCAMBIA AVE	30.95432	-87.14845
Jay lift station	3970 ARTHUR AVE	30.93978	-87.15699
Jay lift station	5320 BECK AVE	30.95244	-87.14304
Milton lift station Alabama/Wallace st	5639 ALABAMA ST	30.63944	-87.03969
Milton lift station	6081 ASHTON WOODS CIR	30.61740	-87.06724
Milton lift station Bagdad-church st	6930 ELLA ST	30.59979	-87.03337
Milton lift station Bagdad-Dorr st	7039 DORR ST	30.59969	-87.02880
Milton lift station Berryhill elementary	4900 BERRYHILL ROAD	30.64741	-87.11687
Milton lift station Berryhill/Locklin vt	5352 BERRYHILL ROAD	30.64705	-87.09946
Milton lift station	5180 COX ROAD	30.62246	-86.96327
Milton lift station Georgetown	6499 CAROLINE ST	30.61683	-87.05249
Milton lift station glover lane			
Milton lift station Hawks nest	5136 WHITE TAIL	30.62171	-87.06512
Milton lift station Jaimees ridge	5999 MEURSALT RD	30.60667	-87.06687
Milton lift station Marlborough village	6533 COLONIAL DR	30.64768	-87.05021
Milton lift station Milton plaza	5755 EAST MILTON RD	30.64223	-86.97371
Milton lift station	5438 MUNSON HWY	30.63620	-87.03107
Milton lift station prison	7015 LANGLEY ST	30.70720	-87.03185
Milton lift station Ray helms road	8830 HWY 87 SOUTH	30.61535	-86.96020
Milton lift station	5726 REDWOOD DR	30.64301	-87.05893
Milton lift station	5206 RICHARDSON ST	30.62504	-87.07103
Milton lift station utility dept	5438 ALABAMA ST	30.63234	-87.03976
Milton lift station vac station	4837 PATTERSON ROAD	30.61167	-87.04117
Milton lift station whiting field	7015 LANGLEY ST	30.70727	-87.03193
Pace lift station hwy 90 master	1 HWY 90	30.59082	-87.17589
Pace lift station	99999 BARKWOOD DR	30.62515	-87.17596
Pace lift station	SWEETBAY DR	30.62285	-87.16673
Pace lift station	FOREST CREEK DR	30.61635	-87.16162
Pace lift station	5421 ROWE TRAIL	30.62294	-87.18490
Pace lift station	3288 ABEL AVE	30.61734	-87.18613
Pace lift station	FRONTIER ROAD UNIT 7	30.61052	-87.13562
Pace lift station	99999 DELMONTE AVE UNIT 8	30.54426	-87.11450
Pace lift station Air Products	4575 HYW 90 UNT 9	30.60323	-87.13276
Pace lift station school "c"	1154 CHUMUCKLA HYW	30.60028	-87.16205
Pace lift station Stonebrook master	VINEWOOD LN	30.63466	-87.19025
Pace lift station	OAKMOUNT DR	30.63904	-87.19647

Pace lift station		GLEN EAGLE DR	30.64632	-87.18705
Pace lift station	phase v	COBBLESTONE DR	30.63963	-87.18235
Pace lift station	Ashmore	8536 BERRYHILL ROAD	30.64511	-87.17398
Pace lift station		MISTY WOODS CIRCLE	30.65711	-87.17209
Pace lift station	Riley	HWY 90		
Pace lift station	Avalon & 90	AVALON BLVD	30.60166	-87.07366
Pace lift station	Woodbine farms	JOANNA DRIVE	30.62946	-87.18218
Pace lift station	Pic-n-Sav	VERN STREET	30.60043	-87.15661
Pace lift station		11111DEER CREEK FARMS	30.62857	-87.16823
Pace lift station		4525 BAYSIDE BLVD	30.55694	-87.13492
Pace lift station		BERNATH DR	30.55579	-87.11781
Pace lift station	Hammersmith	LEEDS COURT	30.65528	-87.14557
Pace lift station		4120 6TH AVE	30.58910	-87.16863
Pace lift station	Burns park	11111 PARKVIEW ST	30.58196	-87.16106
Pace lift station	phase ix	11111 GREYSTONE DR	30.64133	-87.19789
Pace lift station		11111 BRIAN STEET	30.59943	-87.10283
Pace lift station		CASTILLE AVE	30.59420	-87.10036
Pace lift station	plantation creek	E. SPENSERVILLE ROAD	30.62262	-87.13188
Pace lift station		4530 CHANTILLY WAY	30.59961	-87.08596
Pace lift station		RIDGE POINT DR	30.60460	-87.14416
Pace lift station		WINDSOR FOREST CT	30.63247	-87.17501
Pace lift station	Sawmill	CHUMUCKLA HWY	30.63745	-87.17522
Pace lift station	Montecito	MULAT ROAD	30.56145	-87.10918
Pace lift station		4201 DIAMOND ST	30.58926	-87.14724
Pace lift station		HILLSDALE DRIVE	30.58979	-87.15233
Pace lift station		BARCLAY DRIVE	30.59361	-87.15130
Pace lift station	Timber Ridge	AVALON BLVD	30.59172	-87.08256
Pace lift station		3340 INDIAN HILLS DR	30.59910	87.18437
Pace lift station	Spenser Oaks	ATTAWAY DRIVE	30.61435	-87.14438
Pace lift station	Woodbine estates	3590 FAWNWOOD DRIVE	30.60394	-87.18162
Pace lift station	Metron estates	4701 EVELYN ST	30.60973	-87.10834
Pace lift station	North Harbour	BYRNWYCK PL	30.65455	-87.14677
Pace lift station		4138 BELL LANE	30.58820	-87.11163
Pace lift station	Brentwood	BROOKSIDE DR	30.61829	-87.11615
Pace lift station	La Floresta	LA CASA CIRCLE	30.60748	-87.10798
Pace lift station	Thousand Oaks	ENGISH OAK LOOP	30.63202	-87.12448
Pace lift station	Interceptor	4740 CHUMUCKLA HWY	30.60933	-87.16132
Pace lift station	West Spenser ridge	4651 SPEARS ST	30.60665	-87.12304
Pace lift station	Field Crest	CHUMUCKLA HWY	30.62403	-87.16274
Pace lift station	Ashley place	WATKINS ROAD	30.60307	-87.12789
Pace lift station	Twelve Oaks	WEST SPENSER FIELD ROAD	30.63703	-87.14750
Pace lift station	Patriot Place	ANDREW JACKSON CIRCLE	30.58264	-87.16238
Pace lift station	Heritage	4647 BESSINGER LANE	30.60475	-87.09631
Pace lift station	Covington woods	4013 BELL LANE	30.57833	-87.11197
Pace lift station	Lowes	HWY 90	30.60305	-87.10954
Pace lift station	Ashley Plantation 1	OFF QUINTEETTE RD WEST OF DESTINEE RD	30.66892	-87.21376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Streets

B. Response Operations

1. Upon identifying need for debris removal, the County will contact DMCs and get bids. Most appropriate bidder will be identified and brought under contract. Joint operations with the County Public works, TCS and DMC to implement debris removal strategy, will commence as soon as the DMC contract is executed.
   During this negotiation/staging period, local Fire Services will be assisting Public Works personnel in a "cut and toss" effort. Primary efforts will be to clear access to critical facilities and clear major thoroughfares and choke points.

2. Debris will be collected in phases:

   Phase I will include addressing the critical road ways and facility list above with the primary goal of removing debris that will hinder emergency operations and life safety.

   Phase II will include curbside collection as described in 2. C. below for areas not involving the Critical Facilities. Up to two additional passes picking up vegetative material on non-critical roadways to get the county operational. These subsequent passes will include collection of Household Hazardous Waste and White Goods.

C. Recovery Operations

1. Estimating Staff, procedures and assignments

   a. The Debris Project Manager has overall responsibility for the operations, planning, logistics, and cost of the debris management operations. The Debris Project Manager assigns tasks to team members and tracks the completion of tasks to ensure quick implementation of the debris removal operations (Debris Management Guide).

   b. County Public Works employees will be tasked with overseeing TCS as well as overseeing the DMC to ensure proper adherence of our contractors operations with FEMA guidelines and requirements. It is estimated that eight (8) to ten (10) Public Works and Budget Department employees will be heavily involved in the overseeing operation. Assignments will include interfacing with FEMA personnel, coordination of meetings, conflict resolutions, identification of critical pick-up locations, clarification of public verses private rights of way issues, progress reports, handling of pay requests, and processing of load tickets. Numerous other County employees will be involved in non-primary rolls too numerous to mention.

2. Collection method

   a. Curbside Collection
      Curbside collection on public rights of way will be utilized for the majority of the debris removal operation. Deadlines for the placement of materials along the curbside, and the number of passes for collection of the materials, will be determined by the BOCC and applicable FEMA guidelines. The DMC will be responsible and liable for any damage caused by them to public or private property during the collection process. Curbside collection of debris on rights of way not maintained by the County has been addressed by the BCC on an event by event basis. Because FEMA has only reimbursed expenditures to remove debris from public properties, County staff have been utilized in the past to remove debris from non-public rights of way. In these cases, the costs for the removal of debris from non-public rights of way were funded by the County.

   b. Collection Centers
      The County's Central Landfill will be a public collection center for storm related debris. Normal tipping fees may be waived or modified by the BCC if it is deemed to be in the public's best interest.

3. Collecting Hazardous Waste and White Goods
   "The two most common types of debris that will need special handling are hazardous waste and white goods. Regardless of which collection method is used, the planning staff needs to understand the effects this collection can have on the overall debris clearance, removal, and disposal mission." (Debris Management Plan) The DMC will be responsible for the proper collection and disposal of all hazardous waste and white goods.

   a. Household Hazardous Waste (HHW)
      "Refers to hazardous products and materials that are used and disposed of by residential, rather than commercial or industrial consumers. HHW includes some paints, stains, varnishes, solvents, pesticides, and other products or materials containing volatile chemicals that catch fire, react, or explode under certain circumstances, or that are corrosive or toxic" (Debris Management Guide).

      "HHW mixed with other debris types will contaminate the entire load, which necessitates special disposal methods such as storage in a particular part of a landfill. Typically, the landfill requires special liners and a more intense permit standard due to the hazardous waste. The disposal cost of HHW is generally higher than the disposal of other waste; therefore, the overall cost of debris disposal can escalate quickly if the HHW collection and disposal is not planned and executed with care" (Debris Management Guide). The Santa Rosa County Landfill meets all the requirements to be used as a deposal site for HHW.

   b. White Goods
      "Refrigerants and other machine fluids are normally regulated by the State environmental agency and can only be reclaimed by certified technicians and disposed of at a permitted facility. To avoid releases of refrigerants or oils, the collection of white goods should be accomplished carefully by manually placing the appliance on trucks or by using lifting equipment that will not damage the elements that contain the refrigerants or oils.
      Having contracts or agreements in place prior to a disaster expedites the recovery efforts.
      Recycling scrap metals and parts from white goods presents an opportunity for applicants to offset the collection and disposal costs. This also reduces the amount of waste going to a landfill" (Debris Management Guide). The collection and disposition of all White goods will be the responsibility of the DMC. Santa Rosa will follow all Federal, State, and local requirements concerning ozone-depleting refrigerants, mercury, or oils. Documentation of proper disposal will be maintained as it may be required for Public Assistance grant consideration. The DMC will prove to the County Debris Project Manager that a certified/licensed technician is available to remove ozone-depleting refrigerants, mercury, or oils, so as to be in compliance with environmental laws and regulations.

4. Monitoring Staff and assignments
   Thompson Consulting Services (TCS) is the approved debris management monitoring company. TCS will utilize its own staff and Standard operating Procedures (SOPs) to accomplish the monitoring mission.
   TCS will be responsible for ensuring the debris monitoring follows the guidelines of the FEMA Debris Monitoring Fact Sheet 9580.203

   "The specific responsibilities and duties of individual debris monitors in the field are the same for both force account and contracted debris monitoring operations. They are:
   - Report issues to their direct supervisor which require action (such as safety concerns, contractor non-compliance and equipment use)
   - Accurately measure and certify truck capacities (recertify on a regular basis)
   - Properly and accurately complete and physically control load tickets (in tower and field)
   - Ensure that trucks are accurately credited for their load
   - Ensure that trucks are not artificially loaded (ex: debris is wetted, debris is fluffed-not compacted)
   - Validate hazardous trees, including hangers, leaners, and stumps
   - Ensure that hazardous wastes are not mixed in loads
   - Ensure that all debris is removed from trucks at Debris Management Sites (DMS)

- Report if improper equipment is mobilized and used
- Report if contractor personnel safety standards are not followed
- Report if general public safety standards are not followed
- Report if completion schedules are not on target
- Ensure that only debris specified in the contract is collected (and is identified as eligible or ineligible)
- Assure that force account labor and/or debris contractor work is within the assigned scope of work
- Monitor site development and restoration of DMSs
- Report to supervisor if debris removal work does not comply with all local ordinances as well as State and Federal regulations (i.e., proper disposal of hazardous wastes)
- Record the types of equipment used (Time & Materials contract)
- Record the hours equipment was used, include downtime of each piece of equipment by day (Time & Materials contract)". (Debris Monitoring Fact Sheet)

IV. Debris Management Sites (DMS)

A. Site Management

1. Site Manager
The DMC shall be responsible for providing a site manager for all temporary debris management sites utilized by them. The site manager will be responsible for the establishment and maintenance of appropriate facilities at the site to accommodate the anticipated work force and site goals. The facilities may include but not be limited to: proper ingress and egress, monitoring towers, debris storage locations, reduction facilities, safety and security, shelter, and sanitary facilities. The site manager shall ensure that the appropriate and required information relative to the site is provided to the DMC for transfer to the County and FEMA.

2. Monitoring Staff and Assignments
TCS shall be responsible for staffing all required monitoring positions with trained monitors. Monitoring shall be continuous during all periods that debris is being received at the site. All necessary and appropriate load tickets, truck size verification documentation, inspection reports, environmental guidelines, and monitoring reports and other required documentation shall be maintained by the monitoring staff. TCS shall also provide FEMA and County personnel with accommodations for joint monitoring operations at all sites.

3. Safety Personnel
The DMC site manager shall be responsible for the daily inspection of the debris management site for safety issues. Emergency contact information and a first aid kit shall be kept onsite during all operating periods. The site manager shall be responsible to insure that only properly trained personnel are allowed to work in or around the debris site. Access to the site shall be restricted to authorized personnel and signage shall be maintained by the site manager. Travel ways and dumping locations shall be clearly designated for the proper and controlled flow of traffic. Reduction operation areas shall be clearly identified and appropriately restricted. Limited fire fighting apparatus shall be available and maintained onsite.

B. Establishment and Operations Plan

1. Permits
Each site used as a temporary disposal, storage and reduction site (TDSRS), and debris management sites (DMS), must be approved and permitted by FDEP. Pre-permitting of TDSRS is conducted annually through FDEP. The current list is found in 2. B. below and in appendix E. The County also maintains Land Clearing Debris permits for our Avalon and Bell Lane pits in accordance with Rule 62-701 of the Florida Administrative Code.

2. Locations

a. Baseline Data for each location

The identified debris disposal sites are as follows:

- Avalon Land Clearing Debris Pit – parcel #171N280000081000000
- Bell Lane Land Debris Pit – parcel #131N290000028000000
- Bergren Road Site - #17-2S-27-0000-00115-0000
- Central Landfill - # 21-1N-28-0000-01805-0000
- Geiger Borrow Pit – parcel #081N270000019000000
- Howell Borrow Pit – parcel #033N300000002010000
- Phillips Land Clearing Debris pit (Jeff Ates) - # 33-2N-27-0000-00109-0000
- Phillips Land Clearing Debris pit (Five Points) - # 05-2S-26-0000-00105-0000
- Ruthie Bell Pit (Division of Forestry Pit) – parcel#064N260000001000000

b. Ingress/Egress for sites

Avalon Land Clearing Debris Pit (appendix E: Enclosure 1)
Ingress-- Fairlands Road
Egress--- Fairlands Road

Bell Lane Land Debris Pit (appendix E: Enclosure 2)
Ingress-- Bell Lane
Egress--- Bell Lane

Bergren Road Site (appendix E: Enclosure 3)
Ingress— Bergren Road
Egress--- Bergren Road

Central Landfill (appendix E: Enclosure 4)
Ingress— Dalisa Road
Egress--- Dalisa Road

Geiger Borrow Pit (appendix E: Enclosure 5)
Ingress-- B Lowery Road
Egress--- B Lowery Road

Howell Borrow Pit (appendix E: Enclosure 6)
Ingress-- Howell Pit Road
Egress--- Howell Pit Road

Phillips land clearing debris pit (appendix E: Enclosure 7)
Ingress—Five Forks Road
Egress--- Five Forks Road

Phillips land clearing debris pit (appendix E: Enclosure 8)
Ingress-- Jeff Ates Road
Egress--- Jeff Ates Road

Ruthie Bell Pit (Division of Forestry Pit) (appendix E: Enclosure 9)
Ingress—Munson Hwy
Egress--- Munson Hwy

3. Site layouts
See Appendix E, Enclosures 1-9 (detailed above)

4. Site Preparation
None typically required.

5. Volume Reduction and Disposal Methods

The DMC shall be responsible for the appropriate reduction of all debris collected by them prior to disposal. All reduction and disposal methodology shall be in accordance with environmental and other regulatory guidelines and permitting. The site manager shall be responsible to insure that only properly trained personnel are allowed to conduct reduction operations.

a. Incineration
Incineration of vegetative matter will be conducted in accordance with state and local regulations. Applicable permits will be acquired. Air quality criteria shall be monitored throughout the incineration process. If air quality standards are not being met, the incineration operations shall be adjusted or terminated, until air quality standards are achieved. The site manager shall be responsible to insure that only properly trained personnel are allowed to operate the incineration equipment. Limited fire fighting apparatus shall be available and maintained onsite. Disposal of ash from the incineration operation will be conducted in accordance with regulatory requirements and may include: agricultural land application, landfill cover application, and burying onsite, as allowed. Responsible environmental recycling will be encouraged. If required, FDEP and FDOT permits will be acquired for incinerator use. The county owns and operates an incinerator which is housed at the county landfill. The county has certified operators for smoke monitoring.

b. Grinding and Chipping
Grinding and chipping operations of vegetative matter shall be monitored at all times for possible safety hazards. The site manager shall be responsible to insure that only properly trained personnel are allowed to operate grinding and chipping equipment. "There are significant differences in volume reduction between chipping and grinding and incineration. Incineration reduces the volume by approximately 95 percent, leaving only ash residue for disposal. Chipping and grinding reduces the volume by 75 percent. Since 25 percent of the volume remains from chipping and grinding, the benefit of this reduction method can be increased by identifying alternate uses of the residual material. The ability to use recycled wood chips as mulch for agricultural purposes, fuel for industrial heating, or in a cogeneration plant helps to offset the cost of the chipping and grinding operation." (Debris Management Plan) Final disposal of the ground and chipped vegetated debris shall be done in accordance with applicable regulatory guidelines and may include: disposal in a methane generating landfill, landfill cover, landscaping mulch, conversion to fuel pellets, erosion control, surface land applications or be stored at an appropriate location to biodegrade into soil.

6. Recycling
a. "Reducing and/or recycling disaster-related debris has financial and environmental advantages. These operations can decrease the overall cost of a debris removal operation by reducing the amount of material that is taken to a landfill. This diminishes the cost of final disposition in the form of tipping fees. In the case of recycling, potential end-use products for specific markets may offset the cost of operations even more. In many communities, recycling operations are an important component of the community public policy and are a priority." (Debris Management Plan) Recycling will be left to the discretion of DMC to perform. All monetary benefits will be retained by the DMC as an incentive to perform recycling.

b. Common Recyclable Materials
- Metals- Hurricanes and tornadoes can cause extensive damage to mobile homes, sun porches, and green houses. Most of the nonferrous and ferrous metal debris is suitable for recycling. Metal maulers and shredders can be used to shred trailer frames, trailer parts, appliances, and other metal items. Ferrous and nonferrous metals are separated using an electromagnet and then sold to metal recycling firms.
- Soil - Debris removal operations may include transporting large amounts of soil to the DMS. At the DMS, it may be combined with other organic materials that will decompose over time. This procedure can produce significant amounts of soil that can be sold, recycled back into the agricultural community, or stored onsite to be used as cover.
- Concrete, Asphalt, and Masonry Debris - Concrete, asphalt, and masonry products can be crushed and used as base material for certain road construction

products or as a trench backfill. Debris targeted for base materials needs to meet certain size specifications as determined by the end user.

7. Environmental Monitoring Program
   Each site used as a temporary storage and disposal site must be approved by FDEP. Santa Rosa gets FDEP pre-permitted approval for temporary storage and disposal sites on an annual basis. FDEP approval of the temporary sites includes appropriate environmental monitoring requirements for each site. The County also maintains Land Clearing Debris permits for our Avalon and Bell Lane pits in accordance with Rule 62-701 of the Florida Administrative Code.

8. Site Closure
   Site closure permitting will be conducted on all temporary pits in accordance with the issued permits, after the reduction, removal, and disposal of the debris is finalized.

V. Contracted Services

A. Emergency Contracting/Procurement Procedures

1. Emergency contracting and procurement procedures are established by the Board of County Commissioners in accordance with State Statutes and County Policies, and may vary depending on the severity and urgency of the disaster.
2. "The primary role of the Contracting and Procurement department is to have pre-qualified contractors in place prior to the event. This portion of the plan needs to be updated as the jurisdiction's procurement procedures and contracts may expire and change over time. Contracting and Procurement planning includes the following tasks:
   - Develop contract requirements.
   - Establish contractor qualifications.
   - Distribute instructions to bidders.
   - Advertise bids.
   - Establish a pre-disaster list of pre-qualified contractors.
   - Manage the contract scope of work.
   - Establish a post-disaster contracting procedure if necessary." (Debris Management Plan)

B. Debris Operations to be Outsourced – Any debris operation deemed beyond the capabilities of the County's work force will be considered for outsourcing to the selected contractor post disaster.

C. General Contract Provisions
General contract provisions include the removal, reduction and disposal of all disaster generated debris from County rights of way and other public property within Santa Rosa County. The contract will cover handling, processing and disposal of vegetative and construction and demolition debris from curbside to final disposal.

D. Qualification Requirements
Santa Rosa County has pre-qualified five (5) very experienced and reputable companies to provide competitive bids on debris removal and disposal, should the need arise. The companies were selected on the basis of related experience, knowledge of governing regulations and procedures, availability or adequate resources, management capabilities, and other factors. See APPENDIX D for RFQ.

E. Solicitation of Contractors
The solicitation of contractors was conducted in accordance with State requirements and in accordance within the normal procurement procedures of the County. The contractors were selected on the basis of qualifications, and not on bid prices. In the event that a contractor is required for debris removal and disposal, the County will solicit competitive bids from the pre-qualified contractors.

VI. Private property Demolition and Debris Removal

A. Condemnation Criteria and Procedures

1. Dangerous structures are the responsibility of the owner to demolish in order to protect the health and safety of adjacent residents. However, experience has shown that unsafe structures will remain because of the lack of insurance or absentee landlords. Consequently, demolition of these structures may become the responsibility of the DMC under the authority of the County Debris Manager. According to FEMA Recovery Strategy RS-2006-2 "**Eligible Private Debris:** Disaster related vegetative materials, construction and demolition materials, household goods, and other materials deposited (by the event) on *private* (personal or commercial) property, and which present an immediate health and safety threat to the general public. ***Debris on private property does not typically present an immediate health and safety threat to the general public, so removal is not normally eligible for reimbursement.*** However, the Federal Coordinating Officer is authorized to approve the removal of debris from private property when he determines that such debris does present an immediate health and safety threat to the general public, and such removal would be in the public interest." (Recovery Strategy, Page 1, VI. B.)

   The Board of County Commissioners, at their discretion, may authorize removal of debris from private property roadways and absorb the cost.

   If any entry of private property is required, a Right of Entry Form which will include a hold harmless/indemnification clause, will be obtained in advance.

2. Legal Documentation- all such activities will be annotated and photographed before and after demolition.
   "In addition to advising the debris management planning staff, the following tasks should also be performed by the legal department:
   - Review all contracts.
   - Review and/or establish a land acquisition process for temporary debris management sites.
   - Review all insurance policies.
   - Ensure environmental and historic preservation compliance before, during, and after operations.
   - Ensure that site restoration and closure requirements are fulfilled.
   - Review and/or establish a building condemnation processes.
   - Review and/or establish a legal process for private property demolition and debris removal.
   - Review right-of-entry and hold harmless agreements" (Debris Management Plan).

3. Demolition Permitting – all permitting will be done in accordance with County Ordinances

4. Inspections – Private property will be assessed as dangerous or unsafe by the County Building Inspections Department

B. Mobile Home Park Procedures

Mobile home procedures will be the same as for houses.

C. Navigation Hazard Removal Procedures

Santa Rosa County will cooperate with the FDEP, U.S. Army Corps of Engineers, U.S. Coast Guard, Florida Marine Patrol, and other agencies having regulatory authority over Waters of the State, for the removal of debris that may cause a hazard to navigation within the geographic boundary of Santa Rosa County. The extent of the County's participation may be limited to allowing other regulatory agencies and private entities, to place marine construction debris in our rights of way. The County's DMC would then remove and dispose of the navigational hazards along with other eligible debris.

VII. Public Information Plan

A. Public Information officer- Joy Tsubooka

B. Pre-scripted Information- No pre-scripted information specific to debris management is in place because levels of service offered will depend on the event. Templates for distribution of information have been created so specific information can be easily added at the time of a event tailored for employees, residents and the media.

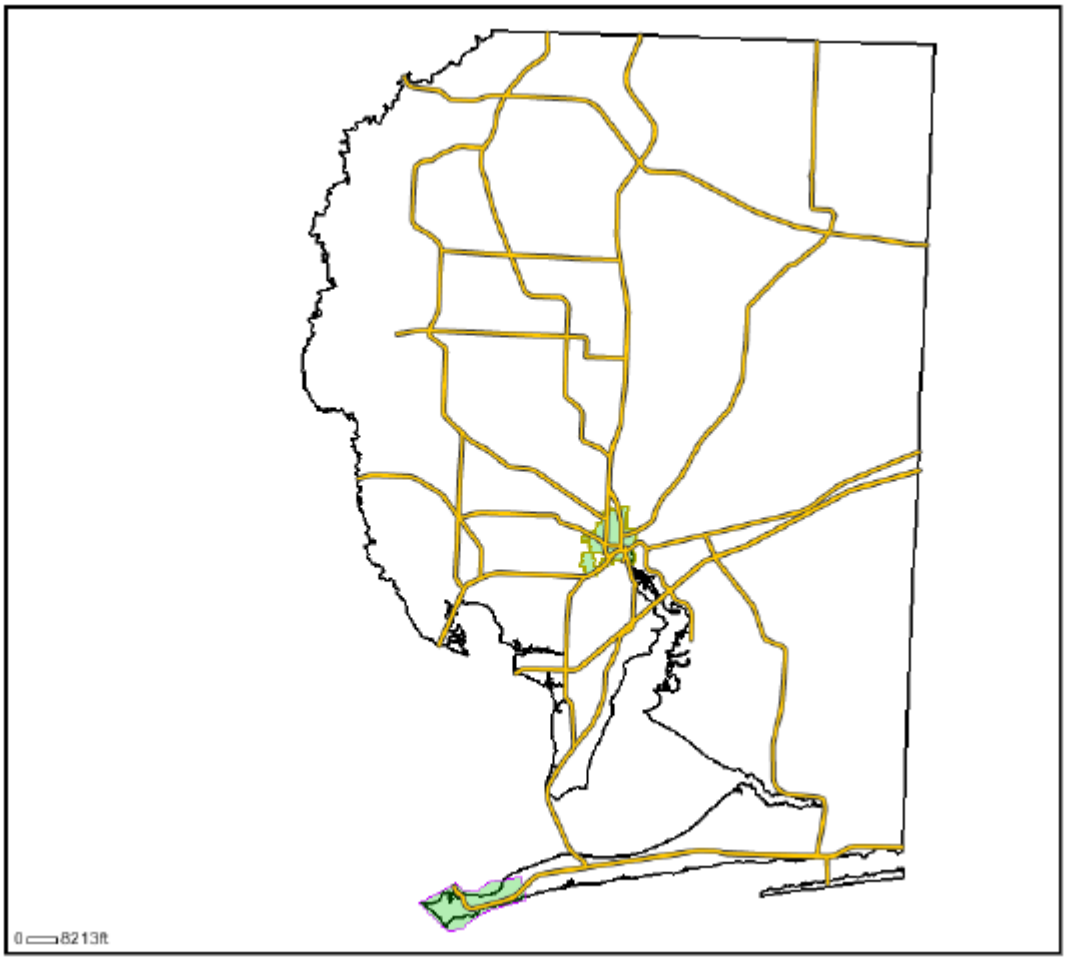
C. Distribution Plan- Information will be distributed to the media via e-mail in a press release format as it becomes available. Press conferences will be held up to three times a day. The PIO will override local station 27 each hour with updated information. Fliers will be distributed to employees at the end of each shift. In the event major communication is lost, informational fliers will be distributed to residents at PODS once a day. All current event information will be on the county's home page and updated as it comes available.

Appendices

A. Maps of jurisdiction and priorities
B. List of Pre Qualified Contractors
C. Forecast Formula
D. RFQ
E. Site layouts
F. Health and Safety

APPENDIX A (Maps of jurisdiction and priorities)

Santa Rosa County is responsible for the collection and disposal of curbside debris for all of the unincorporated areas of the County, and may assume responsibility for pick up in the Town of Jay. The City of Milton and City of Gulf Breeze have established debris management plans that are independent of the County's plan. Debris removal priorities will be established on a case by case basis, based on the greatest perceived threats to the public's health and safety.



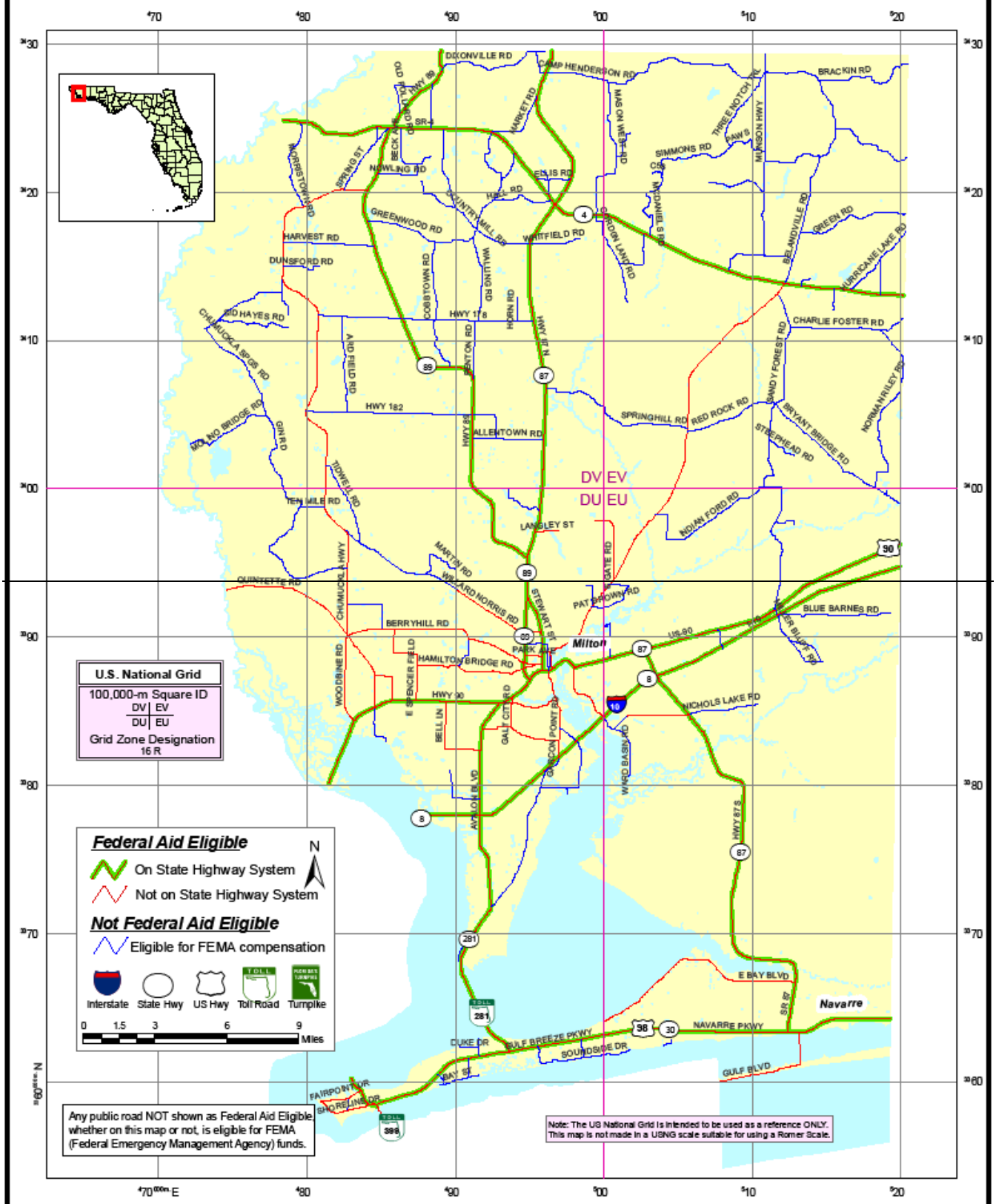
Below are the Federal Aid eligible roadways for Santa Rosa County as recorded on the Florida Department of Transportation web page. Map is overlaid with US National Grid.

Federal Aid Eligibility Map

SANTA ROSA COUNTY

- FLORIDA -

February 4, 2013



FLORIDA DEPARTMENT OF TRANSPORTATION

APPENDIX B (List of Pre Qualified Contractors)

Santa Rosa County has identified 14 debris disposal companies as the only allowable bidders in the event of an incident requiring debris management services. These companies are:

1.	DRC Emergency Services, LLC	850 626-7777
2.	Phillips & Jordan, Inc.	828-479-3371
3.	AshBritt Environmental	954-545-3535
4.	Crowder Gulf	800 992 6207
5.	Unified Recovery Group LLC	225 768 0773
6.	D&J Enterprises	334 821 1249
7.	J.B. Coxwell Contracting Inc	904 786 1120
8.	OMNI Pinnacle LLC	985 863 2991
9.	CERES Environmental	800 218 4424
10.	TAG Grinding Services, Inc	256 395 2243
11.	Bergeron Emergency Services	954 680 6100
12.	Holliday Construction LLC	601 795 4389
13.	Crowder Disaster Recovery	850-576 7176
14.	Byrd Brothers Emergency Services LLC	866 932 0333

APPENDIX C (Forecasting Formula)

After the disaster parameters and geographic extent is established, specific debris volumes can be quantified by using historical information or forecasting models.

Historical records provide a basis for forecasting disaster-generated debris and can be used for planning purposes. Previous contracts for debris removal, recycling activities, volume-reduction processing, and landfill disposal records should be reviewed thoroughly to determine the quantity of disaster debris that was generated for a particular disaster event.

If previous disaster data is not available, assumptions may be made from neighboring jurisdictions' experience, or from USACE modeling. USACE emergency management staff has developed a modeling methodology designed to forecast potential amounts of hurricane-generated debris. Based on data from Hurricanes Frederic (1979), Hugo (1989) and Andrew (1992), the methodology has a predicted accuracy of plus/minus 30 percent. USACE mathematical modeling forecasts the quantity of debris specifically generated by hurricanes and is available in Appendix B*, USACE Hurricane Debris Estimating Model*.

Buildings

Several basic techniques have been established to forecast destroyed building debris quantities. These techniques can be used to forecast debris quantities prior to an event or estimate quantities after a disaster.

Residential buildings

A formula for estimating the debris quantities from a demolished single-family home and associated debris is:

L' x W' x S x 0.20 x VCM =___ cubic yards of debris (cy)

Where:
L = length of building in feet
W = width of building in feet
S = height of building expressed in stories
VCM = Vegetative Cover Multiplier

The vegetative cover multiplier is a measure of the amount of debris within a subdivision or neighborhood. The descriptions and multipliers are described as:

- **Light** (1.1 multiplier) includes new home developments where more ground is visible than trees. These areas will have sparse canopy cover.
- **Medium** (1.3 multiplier) generally has a uniform pattern of open space and tree canopy cover. This is the most common description for vegetative cover.
- **Heavy** (1.5 multiplier) is found in mature neighborhoods and woodlots where the ground or houses cannot be seen due to the tree canopy cover.

The table below can be used to forecast debris quantities for totally destroyed single-family, single-story homes in the applicable vegetative cover category.

The amount of personal property within an average flooded single-family home has been found to be:

- 25-30 cy for homes without a basement
- 45-50 cy for homes with a basement

Mobile homes have less wasted space due to their construction and use. The walls are narrower, and the units contain more storage space. Therefore, the typical mobile home generates more debris by volume than a single-family home. Historically, the volume of debris from mobile homes has been found to be:

- 290 cy of debris for a single-wide mobile home
- 415 cy of debris for a double-wide mobile home

Outbuildings

All other building volumes may be calculated by using the following formula:

$$\frac{L' \times W' \times H' \times 0.33}{27} = \text{___ cubic yards of debris}$$

Where:
L = length of building in feet
W = width of building in feet
H = height of building expressed in feet
0.33 is a constant to account for the "air space" in the building
27 is the conversion factor from cubic feet to cubic yards

Vegetation

Vegetation is the most difficult to estimate due to the random sizes and shapes of trees and shrubbery. Based on historical events, USACE has established a few rules of thumb in forecasting and estimating vegetative debris.

- Treat debris piles as a cube, not a cone, when estimating
- 15 trees, 8 inches in diameter = 40 cy (average)
- One acre of debris, 3.33 yards high = 16,117 cy

Volume – Weight Conversion Factors

These factors to convert woody debris from cubic yards to tons are considered reasonable and were developed by USACE.

Softwoods	6 cubic yards = 1 ton
Hardwoods	4 cubic yards = 1 ton
Mixed debris	4 cubic yards = 1 ton
C&D	2 cubic yards = 1 ton

To verify these conversion factors in the field, several truckloads may be tested. Trucks should be well loaded, contain woody debris typical of that being removed, and truck capacities should be verified. It is recommended that testing be performed with all affected parties present.

Estimating Debris Quantities

According to the USACE hurricane debris estimating model this is a good estimating tool for measuring debris quantities.

The formula used in this model will generate debris quantity as an absolute value based on a known/estimated population or a debris quantity per square mile based upon population density per square mile.
· Determine population (P) in the affected area.
· For example, 1990 census data for Harrison County, MS, is 165,500.
· P = 165,500.
· The assumption of 3 persons per household (H) is used for this model.
· Known/estimated population (P) for a jurisdiction may be used to determine a value for H or H=P/3.
Example

A category 4 storm passes through Harrison County, MS. The area is primarily single family dwellings with some apartment complexes, schools, and shopping centers. Vegetation characteristic is heavy because of the proliferation of residential landscape shrubbery and trees throughout the area. The storm is very wet, with rain before and continuing for a few days after the hurricane.

Formula: Q= H(C)(V)(B)(S)

H= P/3= 165,500/3 = 55,167 (3 persons/household)
C= 50 (Factor for a Category 4 storm)
V= 1.5 (Multiplier for heavy vegetation)
B= 1.3 (Multiplier for heavy commercial due to schools/stores/apartments)
S= 1.3 (Multiplier for wet storm event)

Then Q = 55,167 x50x1.5x1.3x1.3 = 6,992,374 cubic yards of debris or 7 million cy

The Model Formula: Q= H (C)(V)(B)(S) where:
Q is the quantity of debris in cubic yards.
H is the number of households.
C is the storm category factor in cubic yards.
V is the vegetation characteristic multiplier.
B is the commercial/business/industrial use multiplier.
S is the storm precipitation characteristic multiplier.
C is the storm category factor as shown below. It expresses debris quantity in cubic yards (cy) per household by hurricane category and includes the house and its contents, and land foliage.

Hurricane Category	Value of "C" factor
1	2cy
2	8cy
3	26cy
4	50cy
5	80cy

V is the vegetation multiplier as shown below. It acts to increase the quantity of debris by adding vegetation, including shrubbery and trees, on public rights-of-way.

Vegetative Cover	Value of "V" multiplier
Light	1.1
Medium	1.3
Heavy	1.5

B is the multiplier that takes into account areas that are not solely single-family residential, but includes small retail stores, schools, apartments, shopping centers, and light industrial/manufacturing facilities. Built into this multiplier is the offsetting commercial insurance requirement for owner/operator salvage operations.

Commercial Density	Value of "B" multiplier
Light	**1.1**
Medium	**1.2**
Heavy	**1.3**

S is the precipitation multiplier that takes into account either a "wet" or "dry" storm event. A "wet" storm for category 3 or greater storms will generate more vegetative debris due to the uprooting of complete trees.

Precipitation Characteristic	Value of "S" multiplier
None to Light	**1.0**
Medium to Heavy	**1.3**

***NOTE**:* **Steps 2 and 3 of this model can also be applied to other debris generating events once an estimated quantity of debris is established.**

STEP 2—DEBRIS STORAGE SITE REQUIREMENTS

- Estimate debris pile stack height of 10-feet.
- 60% usage of land area to provide for roads, safety buffers, burn pits and household hazardous waste areas.
-

1 acre (ac) = 4,840 square yards (sy)
10 foot stack height = 3.33 yards(y)
total volume per acre = 4,840 sy/ac x 3.33 y = 16,117 cy/ac

· From the example above, the acreage required for debris reduction sites is:

7,000,000/ 16,117 cy/ac = 434 acres (required for debris storage only, no buffers, etc.)

· To provide for roads and buffers, the acreage must be increased by a factor of 1.66.

434 ac x 1.66 = 720 acres or, since one square mile (sm) = 640 acres 720ac/640as/sm=1.12 sm.

- If you assume a 100 acre storage site can be cycled every 45 to 60 days or one time during the recovery period, then 720/2 = 360 ac or four 100 acre sites would be required.
    - The number of sites varies with:
        - Size.
        - Distance from source.
        - Speed of reduction (mixed debris is slower than clean woody debris).
        - Removal urgency.

- The USACE commonly removes approximately 70% of the total volume generated with local governments, volunteer groups, and private individuals removing the remainder.

If 7 million cy were estimated, the USACE would estimate removing approximately 4.9 million cy of debris.

STEP 3—CATEGORIES OF DEBRIS

Debris removed will consist of two broad categories:

- Clean wood debris.
- Construction and demolition (C&D) debris.

The clean debris will come early in the removal process as residents and local governments clear yards and rights-of-way.

The debris removal mission can be facilitated if debris is segregated as much as possible at the origin along the right-of-way, according to type.

The public should be informed regarding debris segregation as soon as possible after the storm.

Time periods should be set for removal, the first 7-10 days clean woody debris only, then followed by other debris, with the metals segregated from non-metals.

Most common hurricane-generated debris will consist of the following:

- 30% Clean woody debris
- 70% Mixed C&D

Of the 70% mixed C&D:

- 42% Burnable but requires sorting
- 5% Soil
- 15% Metals
- 38% Landfilled
-

Based upon the above, 7,000,000 cy of debris would break down as follows:
2,100,000 cy Clean woody debris
4,900,000 cy Mixed C&D

Of the 4,900,000 cy of mixed C&D, 2,058,000 cy is burnable but requires sorting, 245,000 cy is soil,735,000 cy is metals, and 1,862,000 cy is landfilled.

Burning will produce about 95% volume reduction.

Chipping and grinding reduce the debris volume on a 4-to-1 ratio (4 cy is reduced to 1 cy) or by 75%.

The rate of burning is basically equal to the rate of chipping/grinding, about 200 cy/hr. However, chipping requires on-site storage and disposal of the chips/mulch.

APPENDIX D (RFQ)

REQUEST FOR QUALIFICATIONS
FOR STORM DEBRIS REMOVAL SERVICES

Notice is hereby given that the Santa Rosa County Board of County Commissioners is calling for and requesting qualifications for qualified companies for the removal and disposal of storm related debris.

All proposals must be in writing and delivered by hand, mail, fax, or Fed EX to the Santa Rosa County Procurement Department, 6495 Caroline Street, Suite G, Milton, Florida 32570, and must be received by 10:00 a.m., April 10, 2007.

Only proposals received by the aforestated time and date will be considered. All proposals shall be labeled, "**RFQ- Debris Removal Services.**" Please provide twelve (12) copies of the document.

Questions concerning this request should be directed to Mr. Stephen Furman, at (850) 626-0191.

The Board of County Commissioners reserves the right to accept or reject any and all proposals in whole or in part, and to waive all informalities.

Santa Rosa County does not discriminate on the basis of race, color, national origin, sex, religion, age, or handicapped status in employment or provision of service.

By order of the Board of County Commissioners of Santa Rosa County, Florida.

Legal Notice
One Issue – March 10, 2007 – Press Gazette, March 15, 2007 Navarre Press

Bill and Proof to Santa Rosa County Procurement Department, Attention: Orrin L. Smith, 6495 Caroline Street, Suite G, Milton, Florida 32570

March 10, 2007

MEMORANDUM

TO: Company Addressed

FROM: Santa Rosa County Procurement Department

SUBJECT: Request for Qualifications for Storm Related Debris Removal Services

Notice is hereby given that the Santa Rosa County Board of County Commissioners is calling for and requesting qualifications for qualified companies for the removal and disposal of storm related debris.

All proposals must be in writing and delivered by hand, mail, fax, or Fed EX to the Santa Rosa County Procurement Department, 6495 Caroline Street, Suite G, Milton, Florida 32570, and must be received by 10:00 a.m., April 10, 2007.

Only proposals received by the aforestated time and date will be considered. All proposals shall be labeled, "**RFQ- Debris Removal Services.**" Please provide twelve (12) copies of the document.

Questions concerning this request should be directed to Mr. Stephen Furman, at (850) 626-0191. The Board of County Commissioners reserves the right to accept or reject any and all proposals in whole or in part, and to waive all informalities.

Santa Rosa County does not discriminate on the basis of race, color, national origin, sex, religion, age, or handicapped status in employment or provision of service.

APPENDIX E (Site Layouts) All overhead imagery viewed with North being at the top.

Enclosure 1 (Avalon Land Clearing Pit)

Enclosure 2 (Bell Lane Pit)

Enclosure 3 (Bergen Road Site)

Enclosure 4 (Central Landfill)

Enclosure 5 (**Geiger Pit)**

Enclosure 6 (Howell Pit)

Enclosure 7 Phillips Pit at Five Forks

Enclosure 8 Phillips Pit at Jeff Ates Rd

Enclosure 9 (Ruthie Bell Pit -Division of Forestry Pit)

Appendix F
HEALTH AND SAFETY STRATEGY

Purpose
The purpose of this Health and Safety Strategy is to support the existing Santa Rosa County Safety Manual with regards to debris removal activities. These are recommended baseline safety provisions. Ultimately, health and safety is the responsibility of the contracted parties involved in debris removal activities. This document will outline some of the general steps necessary to provide a safe work environment for debris removal and monitoring employees. In addition, this document will identify some representative work hazards and the appropriate measures to reduce risk of injury.

Dissemination of Information
The debris removal contractor and monitoring firm project managers will be provided with this document and will be expected to disseminate the information and guidelines to their respective personnel. A copy of the document should be available for consultation. In addition, elements of the document will be reviewed periodically during the project to increase worker awareness.

Compliance
The debris removal contractor and monitoring firm project managers are responsible for health and safety compliance of their respective personnel and subcontractors.
Any crews or individuals that are not compliant shall be suspended from debris removal activities until the situation is remedied. Frequent offenders of safety policies and procedures will be dismissed from the project entirely.

Job Hazard Assessment
Though debris removal activities are fairly similar among events, assessing the particular hazards of each disaster is an important part of maintaining health and safety for the debris removal workers. At a minimum, the following areas of focus should be considered as part of job hazard assessment:

 Disaster Debris – Disasters that result in property damage typically generate large quantities of debris which must be collected and transported for disposal.
The type of debris varies depending on the characteristics of the region (e.g. terrain, climate, dwelling and building types, population, etc.) and the debris generating event (e.g. type, event strength, duration, etc.). In addition, the disaster debris produces a host of uneven surfaces, which must be negotiated.

 Debris Removal – Often the removal of disaster debris involves working with splintered, sharp edges of vegetative or construction material debris. Many disasters involve heavy rains or flooding. Consequently, disaster debris is damp and heavier than usual. As weights increase, so does the risk of injury.

 Removal Equipment – In most disasters, debris must be removed from the public Right-of-Way (ROW) to provide access for emergency vehicles and subsequent recovery efforts. Debris collection and removal requires the use of heavy equipment and power tools to trim, separate and clear disaster debris.

 Traffic Safety – The ROW is located primarily on publicly-maintained roads.
As a result, much of the debris removal process takes place in traffic of varying levels of congestion. In addition, disasters often damage road signs, challenging safety on the road.

 Wildlife Awareness – Disasters are traumatic events for people as well as wildlife. Displaced animals, reptiles and insects pose a hazard to debris removal workers.

 Debris Disposal – After disaster debris is collected it is often transported to a temporary disposal, storage and reduction site (TDSRS). Upon entry to a TDSRS, the monitoring firm will assess the volume of disaster debris being transported. The collection vehicle will then dispose of the disaster debris and the debris will be reduced either through a grinding operation or incineration.
The TDSRS is a common area for injury. Response and recovery workers in this environment are more likely to be exposed to falling debris, heavy construction traffic, high noise levels, dust and airborne particles from the reduction process.

 Climate – Debris-generating disasters often occur in areas or seasons with extreme weather conditions. The effects of temperature and humidity on physical labor must be monitored, and proper work-rest intervals must be assessed.

Administrative and Engineering Controls
The use of administrative and engineering controls can greatly reduce the threats to public health and safety in debris removal activities. Some common administrative and engineering controls used in the debris removal process are:

Collection Operations
- Conduct debris removal operations during daylight hours only.
- Limit clean-up operations to one side of the road at a time.

HEALTH AND SAFETY STRATEGY
- Limit collection work under overhead lines.
- Inspect piles before using heavy equipment to remove them to ensure that there are no hazardous obstructions.
- Make sure that all collection vehicles have properly functioning lights, horns and back-up alarms.
- Load collection vehicles properly (not overloaded or unbalanced).
- Cover and secure loads, if necessary.
- When monitoring the collection process, stay alert in traffic and use safe driving techniques.

Power Tools
- Inspect all power tools before use.
- Do not use damaged or defective equipment.
- Use power tools for their intended purpose.
- Avoid using power tools in wet areas.

Debris Reducing Machinery (Grinders/Wood Chippers)
- Do not wear loose-fitting clothing.
- Follow the manufacturer's guidelines and safety instructions.
- Guard the feed and discharge ports.
- Do not open access doors while equipment is running.
- Always chock the trailer wheels to restrict rolling.
- Maintain safe distances.
- Never reach into operating equipment.
- Use lock out/tag out protocol when maintaining equipment.

TDSRS/Disposal Operations
- Use jersey barriers and cones to properly mark traffic patterns.
- Use proper flagging techniques for directing traffic.
- Monitor towers must not exit into traffic and should have hand and guard rails to reduce trips and falls.
- Monitor towers must have properly constructed access stairways with proper treads and risers and proper ascent angle (4:1 height/width ratio).
- Monitor towers must be surrounded by jersey barriers which protect the tower and monitors from being struck by inbound or outbound collection vehicles.
- Monitor towers should be located upwind from dust- and particulate generating activities.
- A water truck should spray the site daily to control airborne dust and debris.

Personal Protective Equipment
Personal Protective Equipment (PPE) is the last resort to providing a safe working environment for workers. PPE does not eliminate or even reduce hazards as administrative and engineering controls do. PPE works to reduce the risk of injury by creating a protective barrier between the individuals and work place hazards.
Proper use of PPE includes using PPE for its intended purpose. For example, using the wrong type of respirator might expose the worker to carcinogenic particulates.
Properly fitting the equipment to the user may require examination by a medical professional. PPE that does not fit well will not provide maximum protection and will decrease the likelihood of the individual continuing to use the equipment. In addition, improper use may result in serious injury or death. The proper use of the equipment is outlined in detail in the manufacturer's instructions.
The following PPE may be applicable in standard ROW, Right-of-Entry (ROE), and vegetative and construction & demolition debris removal activities:

 Head Protection – Equipment designed to provide protection for an individual's head against hazards such as falling objects or the possibility of striking one's head against low hanging objects. PPE used to protect the head must comply with ANSI Z89.1-1986, "American National Standard for
Personnel Protection - Protective Headwear for Industrial Workers – Requirements."

 Foot Protection – Equipment designed to provide protection for an individual's feet and toes against hazards such as falling or rolling objects, objects that may pierce the sole or upper section of the foot, etc. PPE used to protect the feet and toes must comply with ANSI Z-41-1991, "American National Standard for Personal Protection-Protective Footwear."

 Hand Protection – Equipment designed to provide protection for an individual's hands against hazards such as sharp or abrasive surfaces. The proper hand protection necessary is dependent upon the situation and characteristics of the gloves. For instance, specific gloves would be used for protection against electrical hazards while the same gloves may not be appropriate in dealing with sharp or abrasive surfaces.

 Vision/Face Protection – Equipment designed to provide protection for an individual's eyes or face against hazards such as flying objects. PPE used to protect eyes and face must comply with ANSI Z87.1-1989, "American National Standard Practice for Occupational and Educational Eye and Face Protection." Again, the proper eye/face protection necessary is dependent upon the situation and characteristics of the equipment. For instance, eye and face protection used by individuals who are welding may not be appropriate for individuals operating a wood chipper.

 Hearing Protection – Equipment designed to provide protection for an individual's hearing against prolonged exposure to high noise levels.
According to OSHA, the permissible level of sound is an average of 90 decibels over the course of an eight (8) hour work day. Above the sound exposure level, hearing protection is required. PPE used to protect hearing must comply with ANSI S3.19-1974, "American National Standard Practice for Personal Protection-Hearing Protection."

 Respiratory Protection – Equipment designed to provide protection for an individual's respiratory system against breathing air contaminated with hazardous gases, vapors, airborne particles, etc. PPE used to the respiratory system must comply with ANSI Z88.2-1992. In addition, the use of respiratory protection requires a qualitative fit test and in some cases a pulmonary fit test by a licensed medical professional.

PPE Debris Removal Activity
PPE requirements are made based upon the results of the job hazards assessment. The following list of PPE is organized by debris removal activity and is meant to be a representative list. Specific PPE requirements vary from location to location. In general, individuals involved in the debris removal process should personally monitor water consumption to avoid dehydration and use appropriate skin protection (breathable clothes, light colors, sunscreen, etc.). Ultimately, the selection of PPE is the responsibility of the debris removal contractor and monitoring firm project managers.

Debris Collection Monitoring
The hazards of disaster debris collection monitoring include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps. PPE requirements include:
- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe and shank if required); and
- Long pants.

Debris Disposal Monitoring
The hazards of disaster debris disposal monitoring include, but are not limited to: struck by or caught in/between vehicles, falls or trips on stairs or uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and struck by falling disaster debris. Monitor towers must be equipped with a first aid kit. PPE requirements include:
- Reflective vest;
- Foot protection (rugged shoes or boots, steel toe if required);
- Long pants; and
- Hard Hat.

Debris Removal
The hazards of disaster debris removal include, but are not limited to: struck by vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps and airborne debris. In addition, PPE requirements include:

- Reflective vest;
- Vision and hearing protection;
- Foot protection (rugged shoes or boots, steel toe and shank if required); and
- Long pants.

Debris Disposal and Reduction
The hazards of disaster debris disposal and reduction include, but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from vegetative or C&D sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective Vest;
- Foot protection (rugged shoes or boots, steel toe if required);
- Vision and hearing protection;
- Long pants;
- Gloves; and
- Hard Hat.

Debris Cutting and Trim Work
The hazards of disaster debris cutting and trimming work include, but are not limited to: struck by or caught in/between vehicles, falls or trips on uneven surfaces, cuts, abrasions or punctures from power tools, vegetative or C&D sharps, struck by falling disaster debris and airborne particles. PPE requirements include:

- Reflective Vest;
- Hand and Foot protection (rugged shoes or boots, steel toe if required);
- Vision and hearing protection
- Long pants; and
- Hard Hat

For additional information regarding health and safety requirements, please contact OSHA.

Health and Safety Contact Information
Occupational Safety & Health Administration 1-800-321-6742

Appendix G
APPLICABLE REGULATIONS AND CODES

Public Law 112-141: (FHWA La) Section 125 of Title 23 of the United States Code, Highways:

‘‘(d) ELIGIBILITY.—
‘‘(1) IN GENERAL.—The Secretary may expend funds from the emergency fund authorized by this section only for the repair or reconstruction of highways on Federal-aid highways in accordance with this chapter, except that—
‘‘(A) no funds shall be so expended unless an emergency has been declared by the Governor of the State with concurrence by the Secretary, unless the President has declared the emergency to be a major disaster for the purposes of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.) for which concurrence of the Secretary is not required; and ‘‘(B) the Secretary has received an application from the State transportation department that includes a comprehensive list of all eligible project sites and repair costs by not later than 2 years after the natural disaster or catastrophic failure.

‘‘(2) COST LIMITATION.—
‘‘(A) DEFINITION OF COMPARABLE FACILITY.—In this paragraph, the term ‘comparable facility’ means a facility that meets the current geometric and construction standards required for the types and volume of traffic that the facility will carry over its design life.
‘‘(B) LIMITATION.—The total cost of a project funded under this section may not exceed the cost of repair or reconstruction of a comparable facility.
‘‘(3) DEBRIS REMOVAL.—The costs of debris removal shall be an eligible expense under this section only for—
‘‘(A) an event not declared a major disaster or emergency by the President under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121 et seq.); or
‘‘(B) an event declared a major disaster or emergency by the President under that Act if the debris removal is not eligible for assistance under section 403, 407, or 502 of that Act (42 U.S.C. 5170b, 5173, 5192).

Sec. 403. Essential Assistance (42 U.S.C. 5170b)*

(a) In general - Federal agencies may on the direction of the President, provide assistance essential to meeting immediate threats to life and property resulting from a major disaster, as follows:

(1) Federal resources, generally - Utilizing, lending, or donating to State and local governments Federal equipment, supplies, facilities, personnel, and other resources, other than the extension of credit, for use or distribution by such governments in accordance with the purposes of this Act.

(2) Medicine, durable medical equipment, food, and other consumables - Distributing or rendering through State and local governments, the American National Red Cross, the Salvation Army, the Mennonite Disaster Service, and other relief and disaster assistance organizations medicine,
durable medical equipment, food, and other consumable supplies, and other services and assistance to disaster victims.

(3) Work and services to save lives and protect property - Performing on public or private lands or waters any work or services essential to saving lives and protecting and preserving property or public health and safety, including -

(A) debris removal;

(B) search and rescue, emergency medical care, emergency mass care, emergency shelter, and provision of food, water, medicine, durable medical equipment, and other essential needs, including movement
of supplies or persons;

(C) clearance of roads and construction of temporary bridges necessary to the performance of emergency tasks and essential community services;

(D) provision of temporary facilities for schools and other essential community services;

(E) demolition of unsafe structures which endanger the public;

(F) warning of further risks and hazards;

Sec. 407. Debris Removal (42 U.S.C. 5173)*

(a) Presidential Authority - The President, whenever he determines it to be in the public interest, is authorized -

(1) through the use of Federal departments, agencies, and instrumentalities, to clear debris and wreckage resulting from a major disaster from publicly and privately owned lands and waters; and

(2) to make grants to any State or local government or owner or operator of a private non-profit facility for the purpose of removing debris or wreckage resulting from a major disaster from publicly or privately owned lands and waters.

(b) Authorization by State or local government; indemnification agreement - No authority under this section shall be exercised unless the affected State or local government shall first arrange an unconditional authorization for removal of such debris or wreckage from public and private property, and, in the case of removal of debris or wreckage from private property, shall first agree to indemnify the Federal Government against any claim arising from such removal.

(c) Rules relating to large lots - The President shall issue rules which provide for recognition of differences existing among urban, suburban, and rural lands in implementation of this section so as to facilitate adequate removal of debris and wreckage from large lots.

(d) Federal share - The Federal share of assistance under this section shall be not less than 75 percent of the eligible cost of debris and wreckage removal carried out under this section.

(e) Expedited Payments -

(1) Grant Assistance – In making a grant under subsection (a)(2), the President shall provide not less than 50 percent of the President's initial estimate of the Federal share of assistance as an initial payment in accordance with paragraph (2).

(2) Date of Payment – Not later than 60 days after the date of the estimate described in paragraph (1) and not later than 90 days after the date on which the State or local government or owner or operator of a private nonprofit facility applies for assistance under this section, an initial payment described in paragraph (1) shall be paid.

Sec. 502. Federal emergency assistance (42 U.S.C. 5192)*

(a) Specified - In any emergency, the President may -

(1) direct any Federal agency, with or without reimbursement, to utilize its authorities and the resources granted to it under Federal law (including personnel, equipment, supplies, facilities, and managerial, technical and advisory services) in support of State and local emergency assistance efforts to save lives, protect property and public health and safety, and lessen or avert the threat of a catastrophe, including precautionary evacuations;

(2) coordinate all disaster relief assistance (including voluntary assistance) provided by Federal agencies, private organizations, and State and local governments;

(3) provide technical and advisory assistance to affected State and local governments for -

(A) the performance of essential community services;

(B) issuance of warnings of risks or hazards;

(C) public health and safety information, including dissemination of such information;

(D) provision of health and safety measures; and

(E) management, control, and reduction of immediate threats to public health and safety;

(4) provide emergency assistance through Federal agencies;

(5) remove debris in accordance with the terms and conditions of section 407;

(6) provide assistance in accordance with section 408;

(7) assist State and local governments in the distribution of medicine, food, and other consumable supplies, and emergency assistance; and

(8) provide accelerated Federal assistance and Federal support where necessary to save lives, prevent human suffering, or mitigate severe damage, which may be provided in the absence of a specific request and in which case the President -

(A) shall, to the fullest extent practicable, promptly notify and coordinate with a State in which such assistance or support is provided; and

(B) shall not, in notifying and coordinating with a State under subparagraph (A), delay or impede the rapid deployment, use, and distribution of critical resources to victims of an emergency.

(b) General - Whenever the Federal assistance provided under subsection (a) with respect to an emergency is inadequate, the President may also provide assistance with respect to efforts to save lives, protect property and public health and safety, and lessen or avert the threat of a catastrophe, including precautionary evacuations.

(c) Guidelines - The President shall promulgate and maintain guidelines to assist Governors in requesting the declaration of an emergency in advance of a natural or man-made disaster (including for the purpose of seeking assistance with special needs and other evacuation efforts) under this section by defining the types of assistance available to affected States and the circumstances under which such
requests are likely to be approved.

44 CFR 206.224
Title 44: Emergency Management and Assistance

CHAPTER I: FEDERAL EMERGENCY MANAGEMENT AGENCY, DEPARTMENT OF HOMELAND SECURITY

SUBCHAPTER D: DISASTER ASSISTANCE

PART 206: FEDERAL DISASTER ASSISTANCE

Subpart H: Public Assistance Eligibility

206.224 - Debris removal.

(a) Public interest. Upon determination that debris removal is in the public interest, the Regional Administrator may provide assistance for the removal of debris and wreckage from publicly and privately owned lands and waters. Such removal is in the public interest when it is necessary to:

(1) Eliminate immediate threats to life, public health, and safety; or

(2) Eliminate immediate threats of significant damage to improved public or private property; or

(3) Ensure economic recovery of the affected community to the benefit of the community-at-large; or

(4) Mitigate the risk to life and property by removing substantially damaged structures and associated appurtenances as needed to convert property acquired through a FEMA hazard mitigation program to uses compatible with open space, recreation, or wetlands management practices. Such removal must be completed within two years of the declaration date, unless the Assistant Administrator for the Disaster Assistance Directorate extends this period.

(b) Debris removal from private property. When it is in the public interest for an eligible applicant to remove debris from private property in urban, suburban and rural areas, including large lots, clearance of the living, recreational and working area is eligible except those areas used for crops and livestock or unused areas.

(c) Assistance to individuals and private organizations. No assistance will be provided directly to

an individual or private organization, or to an eligible applicant for reimbursement of an individual or private organization, for the cost of removing debris from their own property. Exceptions to this are those private nonprofit organizations operating eligible facilities.

[55 FR 2307, Jan. 23, 1990, as amended at 66 FR 33901, June 26, 2001]

Clean Water Act
The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States. It makes it unlawful for any person to discharge any pollutant from a specific source into navigable waters, unless a permit was obtained under its provisions. Through Section 404 of CWA, permits are required to discharge dredged and fill materials into waters of the United States, including wetlands.

Section 402 of CWA implements the National Pollutant Discharge Elimination System, which establishes a permit program controlling water pollution by regulating point sources that discharge pollutants into the waters of the United States.

Debris removal projects such as dredging, demolition, and construction and operation of sites used for debris management must comply with the requirements of CWA as administered by the Federal, State, or local regulatory agency.

Clean Air Act
The Clean Air Act was established to protect the nation's air through the reduction of smog and atmospheric pollution. Several State and local governments have enacted similar legislation, either implementing Federal programs or implementing more stringent air quality requirements within their jurisdictions.

Projects that are funded under the Public Assistance Program such as debris clearance, removal, disposal, recycling, reduction, and demolition, must comply with the air quality standards required by the Federal, State, or local regulatory agencies.

Coastal Barrier Resources Act
The Coastal Barrier Resources Act (CBRA) restricts Federal expenditures and financial assistance that encourage development of coastal barriers so that damage to property, fish, wildlife, and other natural resources associated with the coastal barrier is minimized. Coastal barriers are located along the Atlantic and Gulf Coasts and along the Great Lakes. They are identified on FEMA's Flood Insurance Rate Maps as Coastal Barrier Resources System (CBRS) units.

Costs for debris removal and emergency protective measures in designated CBRS units may be eligible for reimbursement under the Public Assistance Program provided the actions eliminate an immediate threat to lives, public health and safety, or protect improved property.

Resource Conservation and Recovery Act
The Resource Conservation and Recovery Act (RCRA) requires safe disposal of waste materials, promotes the recycling of waste materials, and encourages cooperation with local agencies. It applies to disposal of disaster-generated debris and is of particular concern when hazardous materials may be present.

Endangered Species Act
The Endangered Species Act (ESA) prohibits Federal actions that cause unnecessary harm to species listed as threatened or endangered, or the destruction or adverse modification of the habitat for these species. Endangered species include mammals, fish, birds, reptiles, and amphibians, as well as plants and insects. If a project involves the known habitat of a threatened or endangered species, FEMA must consult with the United States Fish and Wildlife Service and the National Marine Fisheries Service before approving funding for that project.

National Historic Preservation Act
The National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties. Federal agencies must consult with parties who have an interest in the effects of the undertaking in order to identify the affected historic properties, assess the effect of the undertaking on historic properties, and seek ways to avoid, minimize, or treat any adverse effects on historic properties. FEMA complies with NHPA and its implementing regulations in 36 CFR Part 800, either by executing Statewide programmatic agreements or by following standard regulatory procedures, commonly referred to as the Section 106 Process.

Historic properties include districts, buildings, structures, objects, landscapes, archaeological sites, and traditional cultural properties that are included in, or eligible for inclusion in, the National Register of Historic Places. These properties are not just old buildings or well-known historic sites, but places important in local, State, or national history. Facilities as diverse as bridges and water treatment plants may be considered historic. The National Register of Historic Places is a list of recognized historic properties. However, this list is not complete, and States may have additional properties with historic significance. Through the use of programmatic agreements, FEMA has delegated the identification and evaluation tasks to State Historic Preservation Officers (SHPO) in many States.

Coastal Zone Management Act
The Coastal Zone Management Act (CZMA) encourages the management of coastal zone areas and provides grants to be used in maintaining coastal zone areas. It requires that Federal agencies be consistent in enforcing the policies of State coastal zone management programs when conducting or supporting activities that affect a coastal zone. It is intended to ensure that Federal activities are consistent with State programs for the protection and, where possible, enhancement of the nation's coastal zones.

Fish and Wildlife Coordination Act
The Fish and Wildlife Coordination Act authorizes the United States Fish and Wildlife Service to administer programs for the planning, development, maintenance, and coordination of State wildlife resource conservation and rehabilitation. If a proposed project would destroy wildlife habitat or modify a natural stream or body of water, it requires an evaluation of that action’s impact on fish and wildlife.

Wild and Scenic Rivers Act
The Wild and Scenic Rivers Act (WSRA) was established by Congress to preserve selected rivers in its free-flowing condition in order to protect the water quality and fulfill other national conservation purposes. These rivers are considered protected, much like a national wildlife refuge. Federal agencies may not fund projects that would have a direct and adverse effect on the values for which a river was designated. If a proposed project is located on a river designated as wild and scenic, FEMA must review it for compliance with WSRA.

References:

Debris Monitoring Fact Sheet
http://www.fema.gov/government/grant/pa/9580_203.shtm

Debris Management Guide. FEMA 305. July 2007
http://www.fema.gov/government/grant/pa/demagde.shtm#4

Recovery Strategy RS-2006-2. Debris Removal Operations. July 24, 2006

Public Assistance Policy Digest, FEMA 321/January 2008
http://www.fema.gov/pdf/government/grant/pa/pdigest08.pdf

Florida Department of Transportation
http://www.dot.state.fl.us/planning/statistics/fedaid/